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Covid -19 Evidence Update

Summarized and appraised resources

19/01/2021

The following resources are available via electronically or in print. Please follow links to access full text online, or contact the library if you have any difficulties with the links.

The resources included in this update are summaries or critically appraised articles.

If you would like a more specific search conducted please email kgh-tr.library.service@nhs.net

Royal College Guidance	
NICE – new guidance - None	
New Guidance from other sources	
COVID-19 Evidence alerts from McMaster Plus	
Cochrane Systematic Review - None	
Evidence Aid	
Aerosol generating procedures and COVID-19 (multiple reviews)	
Gastrointestinal and Liver Diseases and COVID-19 (multiple reviews)	
Obesity and COVID-19 (multiple reviews)	
Co-morbidities and outcome of COVID-19 (multiple reviews)	
Dynamed – latest updates	
Useful Links	

Royal College/Society Guidance and Point of Care Tools

Latest information and guidance

NICE Rapid guidelines and evidence summaries Speciality guides (*NHS England and NHS Improvement advice has moved here)*	NHS England and NHS Improvement Secondary care *(Includes Prevention, Infection control, Assessment, Management, Discharge, Isolation, Estates and facilities, Finance, Workforce, Cancer …)*
Royal College of Emergency Medicine Covid-19 resources	Association for Palliative Medicine Covid 19 and Palliative, End of Life and Beareavement Care

Royal College of General Practitioners COVID-19	Royal College of Obstetrics & Gynaecologists Coronavirus (COVID-19), pregnancy and women's health
Royal College of Paediatrics and Child Health Key topics COVID 19	Royal College of Pathologists COVID-19 Resources Hub
Royal College of Psychiatrists COVID-19: Community mental health settings	Royal College of Surgeons COVID 19 Information Hub
Royal Pharmaceutical Society COVID-19	British Society of Echocardiography COVID-19 clinical guidance
British Society of Gastroenterology COVID 19 updates	British Society for Haematology COVID-19 Updates
British Society for Rheumatology COVID-19 updates for members	Combined Intensive Care Society, Association of Anaesthetists, Royal College of Anaesthetists, Faculty of Intensive Care Medicine guidance Clinical Guidance
BMJ Best Practice Coronavirus disease 2019 (COVID-19) Management of coexisting conditions in the context of COVID-19	DynaMed Covid 19 (Novel Coronavirus) Covid-19 and Pediatric Patients Covid 19 and Special Populations Covid-19 and Patients with Cancer Covid-19 and Cardiovascular Disease Patients Covid-19 and Patients with Chronic Kidney Disease and End-stage renal Disease Covid-19 and Pregnant Patients Covid-19-associated Coagulopathy
Don't forget the bubbles An evidence summary of paediatric Covid-19 literature Covid-19 – a seslection of evidence based summaries and articles.	

New NICE Guidance

No new guidance published since last bulletin.

New Guidance from other sources

Practical guidance for the management of adults with Immune Thrombocytopenia during the COVID-19 pandemic
British Society for Haematology; 2021 .
https://b-s-h.org.uk/media/19231/guidance-on-management-of-itp-during-the-covid-pandemic-updated-20210104.docx
[This document aims to provide practical guidance for the assessment and management of patients with Immune Thrombocytopenia (ITP) during the COVID-19 pandemic. The intention is to support clinicians and, although recommendations have been provided, it is not a formal guideline...it is a consensus written by clinicians with an interest in ITP or coagulation disorders and reviewed by members of the UK ITP forum. Updated January 2021]
Freely available online

RCSLT clinical guidance for the management of total laryngectomy in the context of COVID-19.
Royal College of Speech and Language Therapists (RCSLT); 2020.
https://www.rcslt.org/learning/rcslt-guidance/
[This document is aimed at speech and language therapists (SLTs) working with people with total laryngectomy (PTL) in the context of COVID-19. It provides interim guidance to support the delivery of urgent and essential care in the context of COVID-19 for PTL. 4 November.]
Freely available online

Guidance on Vaccinations

The COVID-19 Vaccine Communication Handbook: A practical guide for improving vaccine communication and fighting misinformation.
figshare; 2021.
https://ndownloader.figshare.com/files/25980764
[A practical guide (in wiki format) for improving vaccine communication and fighting misinformation. This project tracks behavioural science evidence and advice about COVID-19 vaccine uptake.]

Coronavirus: Covid-19 vaccine roll-out. Frequently Asked Questions.
House of Commons Library; 2021.
https://commonslibrary.parliament.uk/research-briefings/cbp-9081/
[This Commons Library briefing addresses commonly asked questions about the roll-out of the Covid-19 vaccine.]
Freely available online

COVID-19 vaccines (Pfizer/BioNTech and COVID-19 Vaccine AstraZeneca): current advice.
Medicines and Healthcare Products Regulatory Agency (MHRA); 2020.
https://www.gov.uk/drug-safety-update/covid-19-vaccines-pfizer-slash-biontech-and-covid-19-vaccine-astrazeneca-current-advice
[Drug Safety Update. Recent advice from the MHRA on the COVID-19 vaccines authorised for use in the UK, including advice for people with allergies and for women during pregnancy and breastfeeding. 7 January.]
Freely available online

COVID-19: Vaccinations and older people
British Geriatrics Society (BGS); 2021.
https://www.bgs.org.uk/resources/covid-19-vaccinations-and-older-people
[Position paper bringing together current information on vaccination, including BGS statements, Q&As and

useful external links.]
Freely available online

Information for Healthcare Professionals on COVID-19 Vaccine AstraZeneca.
Medicines and Healthcare Products Regulatory Agency (MHRA); 2020.
https://www.gov.uk/government/publications/regulatory-approval-of-covid-19-vaccine-astrazeneca/information-for-healthcare-professionals-on-covid-19-vaccine-astrazeneca
[A new version of this vaccine information for UK healthcare professionals includes new information (in Section 6.6) allowing for an additional dose to be taken if there is sufficient for a further full dose to be taken from the vial. Updated 7 January.]
Freely available online

Principles for COVID-19 Vaccination in Musculoskeletal and Rheumatology for Clinicians
Arthritis and Musculoskeletal Alliance (ARMA); 2021.
http://arma.uk.net/covid-19-vaccination-and-msk/
[All patients should be encouraged to receive one of the COVID-19 vaccines. This is regardless of their treatment regimen or underlying diagnosis. The benefits of the COVID-19 vaccination outweigh the risks and by having the vaccine, this will reduce the risk of developing severe complications due to COVID-19.]
Freely available online

Covid-19 Evidence Alerts from McMaster Plus

COVID-19 Evidence Alerts to current best evidence for clinical care of people with threatened, suspected or confirmed COVID-19 infection. Reports are critically appraised for scientific merit, and those with acceptable scientific merit are appraised for relevance and importance by frontline clinicians. The studies listed below meet their criteria for quality. The site also lists other studies published which do not meet their criteria, or do not belong to a study category they appraise. (More information available).

Diagnosis
The Sensitivity and Costs of Testing for SARS-CoV-2 Infection With Saliva Versus Nasopharyngeal Swabs : A Systematic Review and Meta-analysis. *Bastos ML, Perlman-Arrow S, Menzies D, et al.* **Ann Intern Med**
Structured reporting in portable chest radiographs: An essential tool in the diagnosis of COVID-19. *Yates A, Dempsey PJ, Vencken S, et al.* **Eur J Radiol**
Chest X-ray in the emergency department during COVID-19 pandemic descending phase in Italy: correlation with patients' outcome. *Moroni C, Cozzi D, Albanesi M, et al.* **Radiol Med**
Saliva as a possible tool for the SARS-CoV-2 detection: a review. *Medeiros da Silva RC, Nogueira Marinho LC, Neto de Araujo Silva D, et al.* **Travel Med Infect Dis**
Accuracy of a nucleocapsid protein antigen rapid test in the diagnosis of SARS-CoV-2 infection. *Diao B, Wen K, Zhang J, et al.* **Clin Microbiol Infect**
Clinical usefulness of tomographic standards for COVID-19 pneumonia diagnosis: Experience from a Brazilian reference center. *Grando RD, Brentano VB, Zanardo AP, et al.* **Braz J Infect Dis**
Infectious Diseases Society of America Guidelines on the Diagnosis of COVID-19:Serologic Testing. *Hanson KE, Caliendo AM, Arias CA, et al.* **Clin Infect Dis**
Diagnostic performance of chest computed tomography during the epidemic wave of COVID-19 varied as a function of time since the beginning of the confinement in France. *Boussouar S, Wagner M, Donciu V, et al.* **PLoS One**
Routine laboratory testing to determine if a patient has COVID-19. *Stegeman I, Ochodo EA, Guleid F, et al.* **Cochrane Database Syst Rev**
Etiology
Association between statin use and outcomes in patients with coronavirus disease 2019 (COVID-19): a nationwide cohort study. *Butt JH, Gerds TA, Schou M, et al.* **BMJ Open**
Primary Prevention
Face masks to prevent transmission of COVID-19: a systematic review and meta-analysis. *Li Y, Liang M, Gao L, et al.* **Am J Infect Control**
Prognosis
Clinical characteristics and outcomes of pregnant women with COVID-19 and comparison with control patients: A systematic review and meta-analysis. *Jafari M, Pormohammad A, Sheikh Neshin SA, et al.* **Rev Med Virol**
Clinical characteristics of confirmed COVID-19 in newborns: a systematic review. *Karabay M, Cinar N, Karakaya Suzan O, et al.* **J Matern Fetal Neonatal Med**
Clinical Prediction Guide
A Symptom-Based Rule for Diagnosis of COVID-19.

Smith DS, Richey EA, Brunetto WL **SN Compr Clin Med**
Predictive performance of SOFA and qSOFA for in-hospital mortality in severe novel coronavirus disease. *Liu S, Yao N, Qiu Y, et al.* **Am J Emerg Med**
Treatment
Systematic Review on the Therapeutic Options for COVID-19: Clinical Evidence of Drug Efficacy and Implications. *Abubakar AR, Sani IH, Godman B, et al.* **Infect Drug Resist**
Continuation versus discontinuation of renin-angiotensin system inhibitors in patients admitted to hospital with COVID-19: a prospective, randomised, open-label trial. *Cohen JB, Hanff TC, William P, et al.* **Lancet Respir Med**
Current Evidence of Interleukin-6 Signaling Inhibitors in Patients With COVID-19: A Systematic Review and Meta-Analysis. *Han Q, Guo M, Zheng Y, et al.* **Front Pharmacol**
Intravenous methylprednisolone pulse as a treatment for hospitalised severe COVID-19 patients: results from a randomised controlled clinical trial. *Edalatifard M, Akhtari M, Salehi M, et al.* **Eur Respir J**
A Neutralizing Monoclonal Antibody for Hospitalized Patients with Covid-19. *Lundgren JD, Grund B, Barkauskas CE, et al.* **N Engl J Med**

Cochrane Systematic Reviews

Cochrane Evidence on COVID-19: a roundup

No new systematic reviews on COVID or SARS since the last bulletin.

Evidence Aid

https://evidenceaid.org/evidence/coronavirus-covid-19/

This evidence collection contains plain-language summaries of high-quality research which are available in English, and translated into French, Spanish, Portuguese, Arabic and Chinese (simplified and traditional).

The collection includes summaries of systematic reviews that might be relevant to the direct impact of COVID-19 (including reviews of emerging research, as well as existing reviews of relevant interventions) on health and other outcomes, the impact of the COVID-19 response on other conditions, and issues to consider for the recovery period after COVID-19.

Aerosol generating procedures and COVID-19 (multiple reviews)

Added January 18, 2021

What is this? The COVID-19 pandemic has highlighted particular risks for healthcare workers, including those associated with aerosol generating procedures. Findings from relevant reviews are summarised here. More details for these reviews, including citations and links to the full text, are available lower down this page.

What was found: The reviews, covering a range of clinical areas, suggest that healthcare workers may be at increased risk of COVID-19 from aerosol generating procedures (AGPs).

Some reviews suggest that measures to reduce these risks include delaying procedures during the pandemic and the use of antimicrobial treatments before and after the procedures.

At the time of the Koletsi review of dental procedures (search done on 6 April 2020), the included studies showed that pre-procedural mouth rinse with tempered chlorhexidine 0.2% reduced post-procedural bacterial load and had the highest probability of being ranked the most effective of the treatments in their network meta-analysis. Significant reductions in microbial load were also found for conventional chlorhexidine 0.2% and chloride dioxide rinses, but not for chlorhexidine 0.12%, povidone iodine, ozone, high-volume evacuator, herbal mouthwash and cetylpyridinium chloride compared with control or any other active intervention examined. However, at the time of this review, the most effective intervention to reduce aerosolized microbes (particularly SARS-CoV-2) in dental practice was uncertain.

At the time of the Bolton review (which was published on 1 June 2020), the included studies show that aerosols were an important route of COVID-19 transmission. The review noted that as dysphagia assessments involve cough induction, speech and language therapists or other healthcare professionals undertaking these assessments might be at increased risk of COVID-19 infection.

Based on their review of guidelines (search done on 17 April 2020), Heldwein et al recommended that AGPs should be avoided during urology surgery during the COVID-19 pandemic.

The Tran review (search done in October 2010) found that some AGPs had been linked with high risk of acute respiratory disease (such as SARS) among frontline healthcare workers. Among the AGPs studied, tracheal intubation was linked with the highest risk of transmission to healthcare workers. Other AGPs

identified with potential occupational risk included cardiopulmonary resuscitation and non-invasive ventilation.

What are the reviews:

Citation: Bolton L, Mills C, Wallace S, et al. *Aerosol generating procedures, dysphagia assessment and COVID-19: A rapid review*. International Journal of Language & Communication Disorders. 2020;55(4):629-36.

In this rapid review, the authors searched for research and recommendations relating to dysphagia assessment, AGPs and the risk of COVID-19 transmission to healthcare workers. They did not restrict their searches by type or language of publication but do not state their search date. The manuscript was submitted to the journal on 23 April 2020. The amount of included material is not reported.

Citation: Heldwein FL, Loeb S, Wroclawski ML, et al. *A Systematic Review on Guidelines and Recommendations for Urology Standard of Care During the COVID-19 Pandemic*. European Urology Focus. 2020;6(5):1070-85.

In this rapid review, the authors searched for guidelines on urology standards of care published during the COVID-19 pandemic. They restricted their searches to guidelines published in English between November 2019 and 17 April 2020. They identified 15 guidelines from Australia and New Zealand, Brazil, Canada, Europe and USA.

Citation: Koletsi D, Belibasakis GN, Eliades T. *Interventions to Reduce Aerosolized Microbes in Dental Practice: A Systematic Review with Network Meta-analysis of Randomized Controlled Trials*. Journal of Dental Research. 2020;99(11):1228-38.

In this rapid review, the authors searched for randomized trials and non-randomized studies of interventions used in dental practice to reduce microbial load in aerosols. They did not restrict their searches by date, type or language of publication and did the search on 6 April 2020. They included 21 randomized trials and 8 non-randomized studies, and included 11 randomized trials in a network meta-analysis.

Citation: Tran K, Cimon K, Severn M, et al. *Aerosol Generating Procedures and Risk of Transmission of Acute Respiratory Infections to Healthcare Workers: A Systematic Review*. PLoS One 2012;7(4):e35797.

In this systematic review, the authors searched for research into the associations between AGPs and acute respiratory infection in healthcare workers. They searched for studies published since 1 January 1990 on 22 October 2010. They included 5 case control studies and 5 cohort studies.

Gastrointestinal and Liver Diseases and COVID-19 (multiple reviews)

Added January 15, 2021

What is this? Some patients with COVID-19 infection will develop gastrointestinal or liver-related symptoms or complications. Many reviews have been done and key findings are summarised here. More details on the reviews, including citations and links to their full text, are available lower down this page.

What was found: In general, the reviews showed that gastrointestinal symptoms, such as diarrhoea, loss of appetite, nausea, vomiting, and complications such as liver injury may be experienced by COVID-19 patients.

In general, the reviews support the theory that COVID-19 may be spread through the faeco-oral route and healthcare workers should take infection prevention precautions when handling stool samples.

The Sultan review (search done into April 2020) reported such symptoms and abnormalities were more prevalent outside China. The Mao review (search done up to 4 April 2020) found that children and adults

with COVID-19 had similar prevalence of these symptoms. The presence and severity of gastrointestinal symptoms and complications such as liver injury may be linked to COVID-19 disease severity and that these and liver function tests may provide useful prognostic indicators. The Samidoust review (search done up to 3 April 2020) found that increasing age increases the risk of liver injury.

The Sultan review (search done into April 2020) found that some treatments used for COVID-19 patients (including antiviral treatments and quinolones) had been associated with gastrointestinal side effects, including liver injury.

The Mao review (search done up to 4 April 2020) reported that some COVID-19 patients may present only with gastrointestinal symptoms, experience delays in diagnosis and have poorer prognosis; but the Sultan review (search done into April 2020) reported that isolated gastrointestinal symptoms were rare with COVID-19 infection.

The Cheung (search done on 11 March 2020), Parasa (search done on 30 March 2020) and Mao (search done up to 4 April 2020) reviews noted that around half of patients had detectable viral RNA in stool samples at some stage during their COVID-19 infection. Prolonged viral shedding in stools was observed in these reviews, and the Santos review (search done up to 19 April 2020) reported prolonged viral shedding in stools among paediatric patients, compared with viral shedding in respiratory samples. The Cheung review (search done on 11 March 2020) noted that the presence of diarrhoea was associated with higher stool viral levels.

What are the reviews:

Citation: Cheung KS, Hung IF, Chan PP, et al. *Gastrointestinal manifestations of SARS-CoV-2 infection and virus load in fecal samples from the Hong Kong cohort and systematic review and meta-analysis*. Gastroenterology. 2020;159(1):81-95.

In this rapid review, the authors searched for studies of gastrointestinal symptoms and COVID-19 infection. They did not restrict their searches by language of publication and did the search on 11 March 2020. They included 69 descriptive and observational studies, mostly from Asia (67).

Citation: Mao R, Qiu Y, He JS, et al. *Manifestations and prognosis of gastrointestinal and liver involvement in patients with COVID-19: a systematic review and meta-analysis*. The Lancet Gastroenterology & Hepatology. 2020;5(7):667-78.

In this rapid review, the authors searched for studies of at least 10 patients that assessed the prevalence of gastrointestinal symptoms and complications in COVID-19 patients. They restricted their searches to articles published in English and did the search up to 4 April 2020. They identified 35 studies (6686 patients), mostly from China (32).

Citation: Parasa S, Desai M, Chandrasekar VT, et al. *Prevalence of Gastrointestinal Symptoms and Fecal Viral Shedding in Patients With Coronavirus Disease 2019: A Systematic Review and Meta-analysis*. JAMA Network Open. 2020;3(6):e2011335.

In this rapid review, the authors searched for observational studies of gastrointestinal manifestations of COVID-19 infection. They did not restrict their searches by language of publication and did the search up to 30 March 2020. They included 21 publications and 8 preprint studies, including 28 studies from China and a study of a multicenter CDC database.

Citation: Samidoust P, Samidoust A, Samadani AA, et al. *Risk of hepatic failure in COVID-19 patients. A systematic review and meta-analysis*. Le Infezioni in Medicina. 2020;28(suppl 1):96-103.

In this rapid review, the authors searched for studies of liver failure in COVID-19 patients. They did not restrict their searches by language of publication and did the search up to 3 April 2020. They included 21 studies (4191 patients), mostly from China.

Citation: Santos VS, Gurgel RQ, Cuevas LE, et al. *Prolonged fecal shedding of SARS-CoV-2 in pediatric patients. A quantitative evidence synthesis*. Journal of Pediatric Gastroenterology and Nutrition. 2020;71(2):150-2.

In this rapid review, the authors searched for observational studies comparing faecal viral shedding to respiratory viral shedding in paediatric COVID-19 patients. They did not restrict their searches by language of publication and did the search up to 19 April 2020. They included 4 case series (36 patients).

Citation: Sultan S, Altayar O, Siddique SM, et al. *AGA Institute Rapid Review of the Gastrointestinal and Liver Manifestations of COVID-19, Meta-Analysis of International Data, and Recommendations for the Consultative Management of Patients with COVID-19*. Gastroenterology 2020;159:320-34.

In this rapid review, the authors searched for studies of gastrointestinal and liver manifestations in COVID-patients, and evidence of gastrointestinal complications associated with some COVID-19 treatments (antimalarial and antiviral treatments). They did not restrict their searches by language of publication. They did the search up to 5 April 2020 and monitored American journals for eligible studies up to 19 April 2020. They included 57 studies (10,890 patients); mostly from China and in adults.

Citation: Suresh Kumar VC, Mukherjee S, Harne PS, et al. *Novelty in the gut: a systematic review and meta-analysis of the gastrointestinal manifestations of COVID-19*. BMJ Open Gastroenterology 2020;7:e000417.

In this rapid review, the authors searched for observational studies of gastrointestinal symptoms in adult COVID-19 patients. They restricted their searches to articles published in English and did the searches on 4 April 2020. They included 17 studies (2477 patients), which were mostly from China (15), and assessed as moderate-to-high quality observational evidence.

Citation: Wang H, Qiu P, Liu J, et al. *The liver injury and gastrointestinal symptoms in patients with Coronavirus Disease 19: a systematic review and meta-analysis*. Clinics and Research in Hepatology and Gastroenterology. 2020;44(5):653-61.

In this rapid review, the authors searched for studies of liver dysfunction and gastrointestinal symptoms in at least 10 COVID-19 patients. They restricted their searches to articles published in English and did the search on 31 March 2020. They included 21 studies (3024 patients).

Citation: Youssef M, Hussein M, Attia AS, et al. *COVID-19 and Liver Dysfunction: a systematic review and meta-analysis of retrospective studies*. Journal of Medical Virology. 2020;92(10):1825-33.

In this rapid review, the authors searched for studies of acute liver injury in COVID-19 patients. They did not restrict their searches by language of publication and did the search up to 16 April 2020. They included 20 retrospective observational studies (3428 patients), all from China.

Other reviews of this topic:

Citation: Gavriilidis P, Pai M. *The Impact of COVID-19 Global Pandemic on Morbidity and Mortality of Liver Transplant Recipients Children and Adults: A Systematic Review of Case Series*. Journal of Clinical Medicine Research. 2020;12(7):404.

Citation: Kovalic AJ, Huang G, Thuluvath PJ, et al. *Elevated Liver Biochemistries in Hospitalized Chinese Patients with Severe COVID-19: Systematic Review and Meta-analysis*. Hepatology. 2020 Jul 21.

Citation: Kukla M, Skonieczna-Żydecka K, Kotfis K, et al. *COVID-19, MERS and SARS with Concomitant Liver Injury—Systematic Review of the Existing Literature*. Journal of Clinical Medicine. 2020;9(5):1420.

Citation: Kulkarni AV, Kumar P, Tevethia HV, et al. *Systematic review with meta-analysis: liver manifestations and outcomes in COVID-19*. Alimentary Pharmacology & Therapeutics. 2020;9(5):1420.

Citation: Kumar A, Arora A, Sharma P, et al. *Gastrointestinal and hepatic manifestations of Corona Virus Disease-19 and their relationship to severe clinical course: A systematic review and meta-analysis*. Indian Journal of Gastroenterology. 2020;39(3):268-84.

Citation: Kumar-M P, Mishra S, Jha DK, et al. *Coronavirus disease (COVID-19) and the liver: a comprehensive systematic review and meta-analysis*. Hepatology International. 2020;14:711-22.

Citation: Kunutsor SK, Laukkanen JA. *Markers of liver injury and clinical outcomes in COVID-19 patients: A systematic review and meta-analysis*. Journal of Infection. 2020 May 28.

Citation: Liu J, Cui M, Yang T, et al. *Correlation between gastrointestinal symptoms and disease severity in patients with COVID-19: a systematic review and meta-analysis*. BMJ Open Gastroenterology. 2020;7(1):e000437.

Citation: Miri SM, Roozbeh F, Omranirad A, et al. *Panic of Buying Toilet Papers: A Historical Memory or a Horrible Truth? Systematic Review of Gastrointestinal Manifestations of COVID-19*. Hepatitis Monthly. 2020;20(3):e102729.

Citation: Rokkas T. *Gastrointestinal involvement in COVID-19: a systematic review and meta-analysis*. Annals of Gastroenterology. 2020;33(4):355-65.

Citation: Wang Y, Shi L, Wang Y, et al. *An updated meta-analysis of AST and ALT levels and the mortality of COVID-19 patients*. American Journal of Emergency Medicine. 2020 May 27.

Citation: Wijarnpreecha K, Ungprasert P, Panjawatanan P, et al. *COVID-19 and liver injury*. European Journal of Gastroenterology & Hepatology. 2020 Jul 3.

Citation: Wong MC, Huang J, Lai C, et al. *Detection of SARS-CoV-2 RNA in fecal specimens of patients with confirmed COVID-19: a meta-analysis*. Journal of Infection. 2020;81(2):e31-8.

Citation: Wu Y, Li H, Guo X, et al. *Incidence, risk factors, and prognosis of abnormal liver biochemical tests in COVID-19 patients: a systematic review and meta-analysis*. Hepatology International. 2020;14:621-37.

Citation: Xin S, Xu J, Yu Y. *Abnormal Liver Function Tests of patients with Coronavirus disease 2019 in Mainland China: a systematic review and meta-analysis*. Journal of Gastrointestinal and Liver Diseases 2020;29(2):219-26.

Citation: Xu CL, Raval M, Schnall JA, et al. *Duration of Respiratory and Gastrointestinal Viral Shedding in Children With SARS-CoV-2: A Systematic Review and Synthesis of Data*. Pediatric Infectious Disease Journal. 2020;39(9):e249-56.

Obesity and COVID-19 (multiple reviews)

Added January 14, 2021

What is this? COVID-19 patients with comorbidities, such as obesity, may be at higher risk for poor outcomes. Several rapid reviews have been done to investigate the relationship between obesity and COVID-19 and a summary of their findings is provided here. Details of each review, including the citation and link to the full text, are available lower down this page.

What was found: In general, these reviews found that people with obesity and COVID-19 are at higher risk of death, severe or critical illness, admission to hospital or intensive care unit (ICU) and are more likely to require mechanical ventilation.

The Tamara review (search done on 14 April 2020) found that COVID-19 patients with obesity had an increased need for invasive mechanical ventilation and that patients under 60 years age with obesity grade I and II had increased rates of hospitalization and need for critical care compared to normal weight and overweight COVID-19 patients.

The Foldi review (search up to 11 May 2020) found that COVID-19 patients with obesity had a higher risk of being admitted to ICU and were more likely to be mechanically ventilated.

What are the reviews:

Citation: Földi M, Farkas N, Kiss S, et al. *Obesity is a risk factor for developing critical condition in COVID-19 patients: A systematic review and meta-analysis*. Obesity Reviews. 2020;21(10):e13095.

In this rapid review, the authors searched for studies of COVID-19 patients that compared outcomes between BMI class groups. They searched for articles published between 1 January and 11 May 2020 and included 24 retrospective cohort studies from multiple countries.

Citation: Malik VS, Ravindra K, Attri SV, et al. *Higher body mass index is an important risk factor in COVID-19 patients: a systematic review and meta-analysis*. Environmental Science and Pollution Research. 2020;27:42115–23.

In this rapid review, the authors searched for studies assessing the severity of COVID-19 in patients with obesity. They searched for studies published up to 20 April 2020 and included 14 observational studies, from China (10 studies), France (1) and USA (3).

Citation: Peres KC, Riera R, Martimbianco AL, et al. *Body mass index and prognosis of COVID-19 infection. a systematic review*. Frontiers in Endocrinology. 2020;11:562.

In this rapid review, the authors searched for research into the association between body weight and prognosis in COVID-19 patients. They did not restrict their searches by language or type of publication and searched up to 24 April 2020. They included 4 retrospective cohort studies, 2 prospective cohort studies and 3 cross-sectional studies.

Citation: Tamara A, Tahapary DL. *Obesity as a predictor for a poor prognosis of COVID-19: A systematic review*. Diabetes & Metabolic Syndrome: Clinical Research & Reviews. 2020:14(4):655-9.

In this rapid review, the authors searched for studies of the effect of body mass index (BMI) on the need for critical care for COVID-19 patients. They restricted their searches to articles published in English or Indonesian and did the most recent search on 14 April 2020. They included three retrospective cohort studies (806 patients), one from each of China, France and USA.

Citation: Yang J, Hu J, Zhu C. *Obesity aggravates COVID-19: a systematic review and meta-analysis*. Journal of Medical Virology. 2021;93(1):257-61.

In this rapid review, the authors searched for studies that compared obese and non-obese COVID-19 patients, or severe and non-severe COVID-19 patients. They restricted their searches to articles published in English or Chinese and did the search on 22 April 2020. They included 9 retrospective studies (4444 participants), from China (9 studies), France (1) and USA (1).

Other reviews of this topic:

Citation: de Figueiredo MC, do Nascimento JM, Araújo DS, et al. *The impact of overweight on clinical complications caused by COVID-19: A systematic review*. Research, Society and Development. 2020;9(7):693974791. **Language:** Portuguese

Citation: Sharma A, Garg A, Rout A, et al. *Association of obesity with more critical illness in COVID-19*. Mayo Clinic Proceedings. 2020;95(9):2040-2.

Co-morbidities and outcome of COVID-19 (multiple reviews)

Added January 13, 2021

What is this? Individuals with pre-existing medical conditions who become infected with COVID-19 may be at higher risk of more severe disease and death. Many reviews have been done and key findings are summarised here. More details of the reviews, including citations and links to their full text, are available lower down this page.

What was found: In summary, the reviews show that hypertension, cardiovascular disease, diabetes, respiratory conditions such as chronic obstructive pulmonary disease (COPD), chronic kidney disease, high cholesterol, cancer and other chronic health conditions may increase the risk of severe disease and death for COVID-19 patients.

In contrast, the Liu review (search up to 8 May 2020) found only a mild increase in the risk of severity and mortality for COVID-19 patients with autoimmune disease; but noted that this should continue to be evaluated. And the studies included in the Gavriilidis and Pai review (search up to April 2020) found a lower mortality rate following COVID-19 infection in liver transplant recipients compared to the general population.

What are the reviews:

Citation: Dalia T, Lahan S, Ranka S, et al. *Impact of congestive heart failure and role of cardiac biomarkers in covid-19 patients: a systematic review and meta-analysis*. Indian Heart Journal. 2020 Dec 6.

In this rapid review, the authors searched for studies reporting cardiovascular comorbidities, cardiac biomarkers, disease severity and survival in COVID-19 patients. They restricted their searches to articles published since 1 November 2019 and did the search on 7 June 2020. They included 20 studies (5967 patients), which were from China (17 studies), Italy (1) and USA (2).

Citation: Fang X, Li S, Yu H, et al. *Epidemiological, comorbidity factors with severity and prognosis of COVID-19: a systematic review and meta-analysis*. Aging. 2020;12(13):12493-503.

In this rapid review, the authors searched for observational studies reporting information on comorbidities and severity or prognosis of COVID-19. They restricted their searches to peer-reviewed articles published in

English or Chinese up to 5 April 2020. They identified 69 studies, which were from China (67 studies), Japan (1) and Singapore (1). They included 61 studies (total: approximately 10,000 patients) in their meta-analyses.

Citation: Gavriilidis P, Pai M. *The Impact of COVID-19 Global Pandemic on Morbidity and Mortality of Liver Transplant Recipients Children and Adults: A Systematic Review of Case Series*. Journal of Clinical Medicine Research. 2020;12(7):404-8.

In this rapid review, the authors searched for studies of the impact of COVID-19 infection on liver transplant recipients. They searched for studies published up to April 2020. They included 3 case reports from China and 2 case series from Italy, involving a total of 854 liver transplant recipients (700 children in one case series from Italy).

Citation: Liu M, Gao Y, Zhang Y, et al. *The association between severe or dead COVID-19 and autoimmune disease: a systematic review and meta-analysis*. Journal of Infection. 2020;81(3):e93-5.

In this rapid review, the authors searched for studies of the prevalence of autoimmune diseases in COVID-19 patients to evaluate the association between this comorbidity and infection severity or death. They included articles published up to 8 May 2020. They identified 6 studies, which were from China (5 studies) and USA (1).

Citation: Lu L, Zhong W, Bian Z, et al. *A comparison of mortality-related risk factors of COVID-19, SARS, and MERS: A systematic review and meta-analysis*. Journal of Infection. 2020;81(4):e18-e25.

In this rapid review, the authors searched for studies comparing mortality risk factors including clinical, demographic and laboratory features of COVID-19, SARS and MERS. They restricted their searches to articles published in English or Chinese and did the search on 11 April 2020. They included 13 cohort studies, 11 case-control studies and 4 case series. Ten studies focused on COVID-19.

Citation: Nandy K, Salunke A, Pathak SK, et al. *Coronavirus disease (COVID-19): A systematic review and meta-analysis to evaluate the impact of various comorbidities on serious events*. Diabetes & Metabolic Syndrome: Clinical Research & Reviews. 2020;14(5):1017-25.

In this rapid review, the authors searched for studies of the prevalence and impact of comorbidities on COVID-19 patients. They did not restrict their searches by date or language of publication and did the search on 28 April 2020. They included 16 retrospective studies from China (3994 patients).

Citation: Parohan M, Yaghoubi S, Seraji A, et al. *Risk factors for mortality in patients with Coronavirus disease 2019 (COVID-19) infection: a systematic review and meta-analysis of observational studies*. The Aging Male. 2020 Jun 5:1-9.

In this rapid review, the authors searched for observational studies of the association between age, gender, comorbidities and mortality in COVID-19 patients. They restricted their searches to articles published in English up to 1 May 2020. They included 14 studies (29,909 COVID-19 patients and 1445 deaths).

Citation: Zaki N, Alashwal H, Ibrahim S. *Association of hypertension, diabetes, stroke, cancer, kidney disease, and high-cholesterol with COVID-19 disease severity and fatality: a systematic review*. Diabetes & Metabolic Syndrome: Clinical Research & Reviews. 2020;14(5):1133-42.

In this rapid review, the authors searched for studies of the effects of pre-existing conditions on COVID-19 disease severity. They searched the COVID-19 Open Research Dataset (CORD-19). The date of the search is not reported but the article was submitted to the journal on 23 June 2020. They included 54 articles, which

focused on cancer (7 studies), diabetes mellitus (11), kidney issues (7), stroke (9), hypertension (12) and high cholesterol (8).

Citation: Zheng Z, Peng F, Xu B, et al. *Risk factors of critical & mortal COVID-19 cases: A systematic literature review and meta-analysis*. Journal of Infection. 2020:81(2):e16-e25.

In this rapid review, the authors searched for research into risk factors for the progression of COVID-19. They did not restrict their searches by language of publication and did the search on 20 March 2020. They included 13 studies (3027 patients).

Citation: Zhao J, Li X, Gao Y, Huang W. *Risk factors for the exacerbation of patients with 2019 Novel Coronavirus: A meta-analysis*. International Journal of Medical Sciences. 2020;17(12):1744-50.

In this meta-analysis, the authors searched for studies of risk factors for exacerbation of COVID-19. They included two cohort studies that were completed between 1 January and 28 January 2020 on a total of 179 patients in Wuhan, China.

Other reviews of this topic:

Citation: Balla M, Merugu GP, Patel M, et al. *COVID-19, Modern Pandemic: A Systematic Review From Front-Line Health Care Providers' Perspective*. Journal of Clinical Medicine Research. 2020;12(4):215-29.

Citation: Baradaran A, Ebrahimzadeh MH, Baradaran A, et al. *Prevalence of comorbidities in COVID-19 patients: A systematic review and meta-analysis*. Archives of Bone and Joint Surgery. 2020;8(Suppl 1):247-55.

Citation: Hu Y, Sun J, Dai Z, et al. *Prevalence and severity of corona virus disease 2019 (COVID-19): A systematic review*. Journal of Clinical Virology 2020;127:104371.

Citation: Kaur N, Gupta I, Singh H, et al. *Epidemiological and clinical characteristics of 6635 COVID-19 patients: a pooled analysis*. SN Comprehensive Clinical Medicine. 2020;2(8):1048-52.

Citation: Koh J, Shah SU, Chua PE, et al. *Epidemiological and Clinical Characteristics of Cases During the Early Phase of COVID-19 Pandemic: A Systematic Review and Meta-Analysis*. Frontiers in Medicine. 2020;7:295.

Citation: Moris D, Kesseli SJ, Barbas AS. *Kidney transplant recipients infected by COVID-19: Review of the initial published experience*. Transplant Infectious Disease. 2020:22(6):e13426.

Citation: Pranata R, Huang I, Lim MA, et al. *Impact of cerebrovascular and cardiovascular diseases on mortality and severity of COVID-19–systematic review, meta-analysis, and meta-regression*. Journal of Stroke and Cerebrovascular Diseases. 2020:29(8):104949.

Dynamed - COVID-19 (Novel Coronavirus)

Latest updates

15 JAN 2021
information on notable emerging SARS-CoV-2 variants (CDC 2021 Jan 3)
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14 JAN 2021
CO-RADS at cutoff ≥ 4 points may have high sensitivity and specificity for diagnosis of COVID-19 (Chest 2020 Nov 30 early online)
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14 JAN 2021
chest CT may have high sensitivity and low specificity for diagnosing COVID-19 in patients with suspected COVID-19 (Cochrane Database Syst Rev 2020 Nov 26)
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14 JAN 2021
logistic regression model using known exposure to COVID-19, elevated temperature, reduced white blood cell count, and positive chest X-ray result may have high sensitivity and moderate specificity for predicting COVID-19 PCR test results (Acad Emerg Med 2020 Nov 28 early online)
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14 JAN 2021
nitazoxanide may not improve symptom resolution but may reduce viral load in adults with mild COVID-19 (Eur Respir J 2020 Dec 24 early online)
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14 JAN 2021
convalescent plasma transfusion within 72 hours of symptom onset may reduce development of severe respiratory disease in older adults with mild COVID-19 (N Engl J Med 2021 Jan 6 early online)
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13 JAN 2021
16.6% mean secondary SARS-CoV-2 transmission rate in family and household contacts (JAMA Netw Open 2020 Dec 1)
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12 JAN 2021
COVID-19 mRNA nucleoside modified vaccine (COVID-19 Vaccine Moderna dispersion for injection) authorized for temporary supply by United Kingdom Department of Health and Social Care and Medicines and Healthcare products Regulatory Agency (MHRA) for active immunization to prevent COVID-19 disease caused by SARS-CoV-2 in persons ≥ 18 years old (United Kingdom Medicines and Healthcare Products Regulatory Agency (MHRA) Information for UK Healthcare Providers 2021 Jan 8, MHRA Press Release 2021 Jan 8)
View in topic

12 JAN 2021
CHOSEN risk score may help predict suitability for discharge based on risk of hypoxia, admission to intensive care, and death within 14 days in adults with COVID-19 (J Gen Intern Med 2020 Dec 3 early online)
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11 JAN 2021
seropositivity associated with reduced risk of SARS-CoV-2 reinfection in healthcare workers followed for 6 months (N Engl J Med 2020 Dec 23 early online)

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11 JAN 2021
bamlanivimab may not improve recovery at 90 days in adults hospitalized with COVID-19 without end-organ failure (N Engl J Med 2020 Dec 22 early online)
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8 JAN 2021
Moderna mRNA vaccine (mRNA-1273) may be 94% effective against COVID-19 in adults (N Engl J Med 2020 Dec 30 early online)
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8 JAN 2021
COVID-19 mRNA vaccine nucleoside modified (COVID-19 Vaccine Moderna dispersion for injection) receives conditional marketing authorization by the European Commission for active immunization to prevent COVID-19 in persons ≥ 18 years old, with the following specific considerations for administration in Europe (European Medicines Agency [EMA] Press Release 2021 Jan 6)
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Useful Links

BMJ – latest news and resources for COVID-19

Cochrane Library **Coronavirus (COVID-19): evidence relevant to critical care**

Elsevier - Novel Coronavirus Information Center – Elsevier

European Centre for Disease Prevention and Control

GOV.UK

Health protection Scotland

New England Journal of Medicine

NHS UK

Oxford University Press

Patient.Info

For **access to online book resources** go to our catalogue at https://kgh.koha-ptfs.co.uk, Search for the book record by title, and then click on 'Click here to access online'. You will then be asked to login using your NHS OpenAthens username. If you don't have an OpenAthens account you can self register at https://openathens.nice.org.uk/

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